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| 10/078,499      | 02/21/2002  | Takashi Tsue         | Q66587              | 4701             |

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SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

THOMAS, ASHISH

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2625     |              |

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/078,499

Applicant(s)

TAKASHI TSUE

Examiner

Ashish K. Thomas

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/4/2006 has been entered.

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1, 7, 13, 18, and 22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication Number 2004/0105016 by Sasaki in view of U.S. Patent Number 6,862,103 by Miura et al..

Regarding claim 1, Sasaki discloses a method of processing images, wherein inputted image data is subjected to image processes and the processed image data is outputted, comprising the steps of sequentially dividing inputted image data into small blocks of image data, each having a data volume according to the characteristics of an image process to be performed, sequentially performing an image process on said small blocks of image data to sequentially obtain small blocks of processed image data (the RPU in figure 3 performs a first processing on a single pixel block in element 41 and performs subsequent processing of multi-line blocks in relation to element 42 which is further explained in paragraph 140, lines 15- 24), and sequentially outputting said small blocks of processed image data to an output destination (fig 2 and paragraph 4).

However, Sasaki fails to disclose the method of sequentially outputting processed small blocks of image data to an output device separate from an apparatus performing the image process.

Miura, on the other hand, discloses in column 14, lines 6-19 the concept of outputting processed data sequentially at a printer separate from the image processor. In addition, please note that the concept of sequentially outputting processed blocks of image data to an output device separate from the apparatus performing the image process is well known in the art.

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to incorporate Miura with Sasaki to formulate the method disclosed in claim 1.

The motivation behind the aforementioned combination is that it would increase the performance efficiency of the outputting apparatus by not requiring large amount of memory space to store a large amount of data.

Regarding claim 3, Sasaki and Miura discloses the limitations of claim 1 as stated above and Sasaki further teaches said inputted image data is cached, and said cached inputted imaged data is divided into the small blocks of image data (fig 2, element 29a and 23: RPU performs segmenting according to processing).

2. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication Number 2004/0105016 by Sasaki in view of U.S. Patent Number 6,862,103 by Miura et al and further in view of U.S. Patent Number 5,381,163 by Yokoyama.

Regarding claim 2, Sasaki and Miura discloses the method above in claim 1.

Sasaki does not disclose expressly said inputted image data is divided into said small blocks of data in accordance with the access characteristics of said inputted image data.

Yokoyama discloses said inputted image data is divided into said small blocks of data in accordance with the access characteristics of said inputted image data (see abstract).

Sasaki and Yokoyama are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki's method include dividing the image data into blocks according to the characteristics of the inputted image data, as taught by Yokoyama.

The suggestion or motivation for doing so would have been that Sasaki's system could divide the image data into segments while maintaining the functionality of the original input data.

Therefore, it would have been obvious to combine the teachings of Yokoyama with the method of Sasaki to obtain the invention in claim 2.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication Number 2004/0105016 by Sasaki in view of U.S. Patent Number 6,862,103 by Miura et al and further in view of U.S. Publication Number 2005/0162695 by Shiraiwa.

Sasaki and Miura disclose the method above in claim 1 and Sasaki discloses processed small blocks of image data are sequentially cached (see Fig. 2).

Sasaki and Miura do not disclose expressly an output data is outputted from said cached small blocks of processed image data, according to the characteristics of the output destination.

Shiraiwa discloses an output data is outputted from said cached small blocks of processed image data, according to the characteristics of the output destination (paragraph 30).

Sasaki, Miura, and Shiraiwa are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have the combination of Sasaki and Miura include outputting the

processed data according to the characteristics of the output location, as taught by Shiraiwa.

The suggestion or motivation for doing so would have been that Sasaki' system could send the image data in a compatible format with the output destination.

Therefore, it would have been obvious to combine the teachings of Shiraiwa with the method of Sasaki and Miura to obtain the invention in claim 4.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication Number 2004/0105016 by Sasaki in view of U.S. Patent Number 6,862,103 by Miura et al, U.S. Publication Number 2002/0051230 by Ohta, and U.S. Publication Number 2005/0190400 by Redd.

Sasaki and Miura disclose the method above in claim 1.

They do not disclose expressly wherein the image processes are performed in accordance with the characteristics of the inputted image data.

Ohta discloses wherein the image processes are performed in accordance with the characteristics of the inputted image data (see abstract and paragraph 41).

Sasaki, Miura, and Ohta are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki and Miura include image processing according to the characteristics of the inputted data, as taught by Ohta.

The suggestion or motivation for doing so would have been that Sasaki' system could provide flexibility in processing a wide variety of image data types.

Therefore, it would have been obvious to combine the teachings of Ohta with the method of Sasaki and Miura to obtain the invention in claim 5.

Continuing, Sasaki, Miura, and Ohta fail to expressly disclose and/or the characteristics of the output destination.

Redd discloses and/or the characteristics of the output destination (paragraph 100).

Sasaki, Miura, Ohta, and Redd are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki, Miura, and Ohta's method include image processing according to the characteristics of the inputted data, as taught by Redd.

The suggestion or motivation for doing so would have been that Sasaki, Miura, and Ohta's method would have flexibility in processing image data to a variety of output destinations.

Therefore, it would have been obvious to combine the teachings of Redd with the method of Sasaki, Miura, and Ohta to obtain the invention in claim 5.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication Number 2004/0105016 by Sasaki in view of U.S. Patent Number 6,862,103 by Miura et al, and U.S. Publication Number 2005/0190400 by Redd.

Sasaki and Miura disclose the method above in claim 1.

Sasaki and Miura do not disclose expressly state that a determination is made as to whether not the image process dependent on the output destination is valid or not,



based on the characteristics of the input destination of the inputted image data and the output characteristics of the output destination, and for cases in which it is determined that the image process dependent on the output destination is valid, the processing dependent on said output destination is substituted for the aforementioned processing.

Redd discloses a determination is made as to whether not the image process dependent on the output destination is valid or not, based on the characteristics of the input destination of the inputted image data and the output characteristics of the output destination, and for cases in which it is determined that the image process dependent on the output destination is valid, the processing dependent on said output destination is substituted for the aforementioned processing (paragraph 100).

Sasaki, Miura, and Redd are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki and Miura's method include determining if the image process is compatible with the output and subsequently using the image process that is compatible with the output, as taught by Redd.

The suggestion or motivation for doing so would have been that Sasaki's system could send the image data in a compatible format with the output destination.

Therefore, it would have been obvious to combine the teachings of Redd with the method of Sasaki and Miura to obtain the invention in claim 6.

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6. Claims 7-12 recite identical features as claims 1 through 6, respectively, except claims 7-12 are apparatus claims. Thus arguments similar to that presented above for claims 1-6 are equally applicable to claims 7-12.

7. Claims 13-18 recite identical features as claims 1 through 6 except claims 13-18 are computer readable medium claims. Thus, arguments similar to that presented above for claims 1-6 are equally applicable to claims 13-18.

8. Claims 19-21 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication Number 2004/0105016 by Sasaki in view of U.S. Patent Number 6,862,103 by Miura et al and further in view of U.S. Patent Number 4,661,987 by Anderson et al.

Regarding claim 19, Sasaki and Miura disclose the dependency of claim 1, as stated above.

But does not disclose expressly wherein the step of sequentially dividing the inputted image data into small blocks of image data comprises receiving the inputted image data line by line at a first memory and the step of sequentially performing the image process comprises: first processing  $a_1$  lines of the inputted image data to generate first data when  $b$  lines of image data have been received at the first memory,  $b$  being greater than  $a_1$ ; storing the first data in a second memory; and second processing  $a_2$  lines of the first data stored in the second memory.

However, Anderson discloses wherein the step of sequentially dividing the inputted image data into small blocks of image data comprises receiving the inputted image data line by line at a first memory and the step of sequentially performing the

image process comprises: first processing  $a_1$  lines of the inputted image data to generate first data when  $b$  lines of image data have been received at the first memory,  $b$  being greater than  $a_1$ ; storing the first data in a second memory; and second processing  $a_2$  lines of the first data stored in the second memory (abstract, col 3 lines 27-62, and fig 1).

Sasaki, Miura, and Anderson are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki and Miura's system include sequentially processing portions of image data using cascading memories, as taught by Anderson.

The suggestion or motivation for doing so would have been that Sasaki and Miura's system could process image data in a sequential fashion so as to improve speed.

Therefore, it would have been obvious to combine the teachings of Anderson with the system of Sasaki and Miura to obtain the invention in claim 19.

Regarding claim 20, Sasaki, Miura, and Anderson disclose the dependency of claim 19, as stated above.

But Sasaki and Miura do not disclose expressly wherein the first processing is  $x$  direction enlargement and the second processing is  $y$  direction enlargement.

However, Anderson discloses wherein the first processing is  $x$  direction enlargement and the second processing is  $y$  direction enlargement (col 3 lines 51- 53, fig 5C, and fig 1 elements 45 and 49).

Sasaki, Miura, and Anderson are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki and Miura's system include a first processing in a horizontal direction and a second process in a vertical direction, as taught by Anderson.

The suggestion or motivation for doing so would have been that Sasaki and Miura's system could process image data by using a well known enlarging technique.

Therefore, it would have been obvious to combine the teachings of Anderson with the system of Sasaki and Miura to obtain the invention in claim 20.

Regarding claim 21, Sasaki, Miura, and Anderson disclose the dependency of claim 19, as stated above, and Sasaki further teaches wherein the first processing is color space conversion and the second processing is resolution conversion (fig 3 elements 43 and 45).

Regarding claim 22, Anderson discloses a method of processing an image divided into a plurality of portions comprising a first portion, a second portion and a third portion, said method comprising the steps of: storing the first portion in a first memory; first processing the first portion stored in the first memory in a first image process to generate a processed first portion and storing the second portion in the first memory, the operation of first processing the first portion and the operation of receiving the second portion in the first memory substantially occurring in parallel; storing the processed first portion in a second memory; and second processing a portion of the processed first portion stored in the second memory in a second image process, first

processing the second portion stored in the first memory in the first image process and storing the third portion in the first memory, the operation of second processing the portion of the processed first portion, the operation of first processing the second portion and the operation of storing the third portion in the first memory substantially occurring in parallel. (Abstract, col 3 lines 27-62, and fig 1: claim 22 recites nearly identical limitations as claim 19, with the exception of an added third portion which is inherent to the system along with any number of additional successive portions to complete the processing of an entire image.)

Anderson does not disclose expressly a method wherein each of the first portion, the second portion and the third portion has a corresponding image data having a data volume according to characteristics of at least one of the first image process and a second image process.

However, Sasaki discloses a method wherein each of the first portion, the second portion and the third portion has a corresponding image data having a data volume according to characteristics of at least one of the first image process and a second image process (the RPU in figure 3 performs a first processing on a single pixel block in element 41 and performs subsequent processing of multi-line blocks in relation to element 42 which is further explained in paragraph 140, lines 15-24).

Anderson and Sasaki are combinable because they are from the same field of endeavor namely image processing. At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Anderson's system include segmentation in accordance with the processing, as taught by Sasaki.

The suggestion or motivation for doing so would have been that Anderson's system could divide image data into optimum sized blocks for a particular processing function therefore improving speed.

Therefore, it would have been obvious to combine the teachings of Sasaki with the system of Anderson to obtain the invention in claim 22.

However, Anderson and Sasaki fail to disclose the method wherein the second processing outputs the processed output to an output device which is separate from a apparatus performing said image process.

Miura, on the other hand, discloses in column 14, lines 6-19 the concept of outputting processed data sequentially at a printer separate from the image processor. In addition, please note that the concept of sequentially outputting processed blocks of image data to an output device separate from the apparatus performing the image process is well known in the art.

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to incorporate Miura with Sasaki and Anderson to formulate the method disclosed in claim 22.

The motivation behind the aforementioned combination is that it would increase the performance efficiency of the outputting apparatus by not requiring large amount of memory space to store a large amount of data.

Regarding claim 23, Anderson, Sasaki, and Miura disclose the dependency of claim 22, as stated above, and Anderson further teaches wherein the first image

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process is x direction enlargement and the second image process is y direction enlargement (col 3 lines 51-53, fig 5C, and fig 1 elements 45 and 49).

Regarding claim 24, Anderson, Sasaki, and Miura disclose the dependency of claim 22, as stated above, but Anderson and Miura does not disclose expressly wherein the first image process is color space conversion and the second image process is resolution conversion.

However, Sasaki discloses wherein the first image process is color space conversion and the second image process is resolution conversion (fig 3 elements 43 and 45).

Anderson, Miura, and Sasaki are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Anderson and Miura's system include color space conversion and resolution conversion, as taught by Sasaki.

The suggestion or motivation for doing so would have been that Anderson's system could logically first perform a color conversion and then adjust the resolution of the color converted image.

Therefore, it would have been obvious to combine the teachings of Sasaki, Miura, and Anderson to obtain the invention in claim 23.

9. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication Number 2004/0105016 by Sasaki in view of U.S. Patent Number

6,862,103 by Miura et al and further in view of U.S. Patent Number 5,381,163 by Yokoyama and U.S. Patent Number 6,778,698 by Prakash et al.

Regarding claim 25, Sasaki, Miura, and Yokoyama disclose the dependency of claim 2, as stated above, but these references do not disclose expressly wherein the access characteristics of said inputted image data comprises format type of image data.

However, Prakash discloses a method wherein the access characteristics of said inputted image data comprises format type of image data (col 5 lines 10-21).

Sasaki, Miura, Yokoyama, and Prakash are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki, Miura, and Yokoyama's system include dividing image data in accordance the format of the image type, as taught by Prakash.

The suggestion or motivation for doing so would have been that Sasaki and Yokoyama's system could flexibly and efficiently segment image data according to a variety of popular image formats.

Therefore, it would have been obvious to combine the teachings of Sasaki, Miura, and Yokoyama with Prakash to obtain the invention in claim 25.

Regarding claim 26, Sasaki, Miura, and Yokoyama disclose the dependency of claim 2, as stated above, but they do not disclose expressly wherein the access characteristics of said inputted image data comprises format type of image data.

However, Prakash discloses wherein the access characteristics of said inputted image data comprises format type of image data (col 5 lines 10-21).



Sasaki, Miura, Yokoyama, and Prakash are combinable because they are from the same field of endeavor namely image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Sasaki, Miura, and Yokoyama's system include dividing image data in accordance the format of the image type including JPEG format, bitmap format and RAW format, as taught by Prakash.

The suggestion or motivation for doing so would have been that Sasaki and Yokoyama's system could flexibly and efficiently segment image data according to a variety of popular image formats.

Therefore, it would have been obvious to combine the teachings of Sasaki, Miura, and Yokoyama with Prakash to obtain the invention in claim 26.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashish K. Thomas whose telephone number is 571-272-0631. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached on 571-272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AKT

  
KIMBERLY WILLIAMS  
SUPERVISORY INVENT EXAMINER